

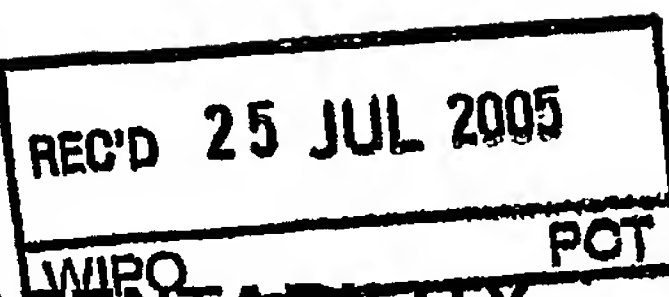
PATENT COOPERATION TREATY


PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference JGP/RNW/7780 WO	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/GB2004/003245	International filing date (day/month/year) 23.07.2004	Priority date (day/month/year) 24.07.2003	
International Patent Classification (IPC) or national classification and IPC G01R27/32			
Applicant UNIVERSITY COLLEGE CARDIFF CONSULTANTS LIMITED			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 24.02.2005		Date of completion of this report 21.07.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - Glitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840		Authorized Officer Binger, B Telephone No. +49 30 25901-617	



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003245

Box No. 1 Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-46 as originally filed

Claims, Numbers

1-28 as originally filed
29, 30 received on 24.02.2005 with letter of 23.02.2005
31 received on 06.07.2005 with letter of 06.07.2005

Drawings, Sheets

1/7-7/7 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2004/003245

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	8,9,11,25,26,30,31
	No: Claims	1-7,10,12-24,27-29
Inventive step (IS)	Yes: Claims	30,31
	No: Claims	1-29
Industrial applicability (IA)	Yes: Claims	1-31
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

1 The following documents are referred to in this communication:

D1 : US 6 509 743 B1 (FERRERO ANDREA) 21 January 2003 (2003-01-21)
D2: US-B-6 204 6731 (ANDEEN CARL G ET AL) 20 March 2001 (2001-03-20)
D3: WILLIAMS DAVID J ET AL: "A study of the effect of envelope impedance on intermodulation asymmetry using a two-tone time domain measurement system" IEEE MTT S INT MICROWAVE SYMP DIG; IEEE MTT-S INTERNATIONAL MICROWAVE SYMPOSIUM DIGEST 2002, vol. 3, 2002, pages 1841-1844, XP002303884

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,14,16,28 and 29 is not new in the sense of Article 33(2) PCT.

2.1) Document D1 discloses (the references in parenthesis applying to this document):

With respect to claim 1, D1 describes an analyser for measuring at frequencies within a frequency range the response of an electronic device to a high frequency input signal, the analyser including (**column 1, lines 9-17**):

an active load pull circuit connectable in use to a device to be analysed, the active load pull circuit including (**Fig.2**)

a feedback circuit arranged to receive an output signal from the device to be analysed, to modify the signal and to feed the modified signal back to the device to be analysed (**Fig.4**), wherein the feedback circuit is arranged to limit the magnitude gain of the feedback circuit at all frequencies within the frequency range (**Fig.2, column 2, lines 11-17**).

The subject-matter of claim 1 is not novel (Article 33(2)PCT)

2.2) For the same reasons cited above, the subject-matter of **claim 14** is not new (Article 33(2) PCT), because the active load pull circuit is described itself in claim 1.

2.3) For the same reasons cited above, the subject-matter of **claim 16** is not new (Article

33(2) PCT), because the method claim 16 correspond to the apparatus claim 1.

2.4) For the same reasons cited above, the subject-matter of **claims 28 and 29** is not new (Article 33(2) PCT), because the claims 1,14 and 16 are not new.

3. Document D1, which is considered to represent the most relevant state of the art, discloses a active load or source impedance synthesis apparatus for measurement test set of microwave components and systems, see figure 2.
The subject-matter of claim 30 differs at least by: to downconvert the signal received to a low frequency signal, to modify the low frequency signal, to upconvert the modified low frequency signal to a modified high frequency signal
The subject-matter of claim 31 differs at least by: the feedback circuit is also arranged to limit the magnitude gain of the feedback circuit at frequencies inside the band frequencies.

The subject-matter of claims 30 and 31 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention is to reduce problems associated with positive feedback and circuit oscillations (page 11, lines 19-20).

The solution to this problem, proposed in claims 30 and 31 of the present application is considering as involving an inventive step (Article 33(2) PCT) because D1 is not disclosing any incentive in the direction of the invention. The further available prior art does not help in the respect either.

4. **DEPENDENT CLAIMS 2-13, 15, 17-27**

Dependent claims 2-13, 15, 17-27 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), the reasoning being as follows:

- Claims 2-7,10,12,13,15, 17-24 and 27 are known from D1 see Fig.4 and column 3 , line 4 to column 5, line 64 (Article 33(2) PCT).

- Claims 8 and 9, D1 describes an analyser for measuring at frequencies with an active load pull circuit. The additional constructional details which are included in **claims 8 and 9** appear to come within the scope of the customary practice followed by the skilled person, especially as the advantages thus achieved can be readily contemplated in advance. These advantages apply also to the analyser system of D1. Consequently, the subject-matter of claims 8 and 9 also appear to lack an inventive step (Article 33(3) PCT) in view of **D1**.
 - Claim 11 slight changes of the method and/or arrangement are suggested which come within the scope of the customary practice (see e.g. document D2, Fig.5) followed by the skilled person, especially as the advantages thus achieved can be readily contemplated in advance. These advantages apply also to the analyser system of D1. Consequently, the subject-matter of claim 11 appears to lack an inventive step (Article 33(3) PCT) in view of **D1**.
 - Claims 25 and 26 slight changes of the method and/or arrangement are suggested which come within the scope of the customary practice (see e.g. document D3, page 1841, column 2, line 38 to page 1842, column 1, line 22) followed by the skilled person, especially as the advantages thus achieved can be readily contemplated in advance. These advantages apply also to the analyser system of D1. Consequently, the subject-matter of claims 25 and 26 appears to lack an inventive step (Article 33(3) PCT) in view of **D1**.
- 5) Although claims 1, 30 and 31 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.